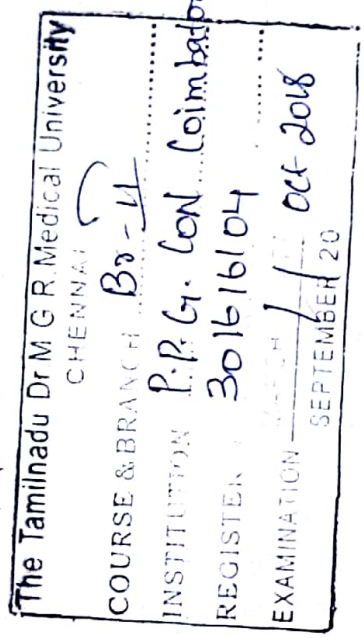
A STUDY TO ASSESS THE EFFECTIVENESS OF PROGRESSIVE MUSCLE RELAXATION EXERCISE ON THE LEVEL OF STRESS AMONG EARLY ADOLESCENT SCHOOL CHILDREN IN ALCHEMY PUBLIC SCHOOL AT COIMBATORE.



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By

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A DISSERTATION SUBMITTED TO THE TAMILNADU Dr. M.G.R. MEDICAL UNIVERSITY, CHENNAI IN PARTIAL FULFILLMENT OF REQUIREMENT FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING

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RELAXATION ROUTINE

1. SIT ON A CHAIR...

2. "SCRUNCH" UP YOUR FACE...

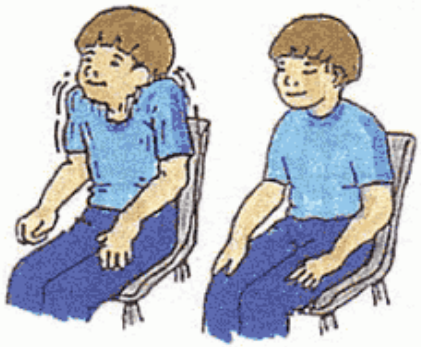
THEN... RELAX IT...

3. TENSE YOUR ARMS...

THEN... RELAX THEM

4. TENSE UP YOUR SHOULDERS AND CHEST...

THEN... RELAX THEM



5. TENSE UP YOUR LEGS...

...THEN RELAX!

6. BREATHE IN RELAXATION...

...BREATHE OUT TENSION

CHAPTER-IV

DATA ANALYSIS AND INTERPRETATION

Data analysis is conducted to reduce, organize and give meaning to the data. Analysis technique in quantitative research includes descriptive and inferential analysis.This chapter deals with the analysis and interpretation of data collected from 60 students from a selected school at Saravanampatti, Coimbatore.

The data have been presented under the following sections.

Section-I Demographic characteristics of the sample.

Demographic characteristics of the sample have been presented in relation to personal characteristics and parents' education, income and the practice of exercise for experimental and control group.

Section-II Level of stress in experimental and control group.

This analysis has been done comparatively for the experimental and control group in four dimensions (physical, emotional, academic and social) and overall in three levels of stress (physical, emotional, academic and social) in frequency and percentage. The analysis has also been done in mean score and significant difference before and after the intervention.

Section-III Association of selected demographic variables with overall level of stress.

In physical and emotional dimension, type of family, have a association and other demographic variables are not associated.

In academic dimension, sex of the child, in social dimension type of family are associated.

In over all stress level sex of the child has association.

SECTION –I

Description of demographic variables

TABLE -1

N=60

S: NO	Demographic characteristics	Experimental group (n=30)		Control group (n=30)	
		F	%	F	%
1	**Age (years)**				
	o 10-11 years	11	36.7	07	23.3
	o 12-13 years	12	40.0	14	46.7
	o 14-15years	07	23.3	09	30.0
2	**Sex**				
	o Male	10	33.3	11	36.7
	o Female	20	66.7	19	63.3
3	**Education status of the parents**				
	o Illiterate	01	03.3	02	06.7
	o Primary	06	20,0	05	16.7
	o Higher secondary	10	33.3	06	20.0
	o Graduate	13	43.3	17	56.6
4	**Monthly income of the parents**				
	o 4001-5000	06	20.0	02	06.7
	o 5001-9000	10	33.3	14	46.7
	o 9001-12000	14	46.7	14	46.7
5	**Education of children**				
	o 6th	6	20.0	-	-
	o 7th	5	16.7	7	23.3
	o 8th	5	16.7	5	16.7
	o 9th	7	23.3	9	30.0
	o 10th	7	23.3	9	30.0
6	**Type of family**				
	o Nuclear family	15	50.0	16	53.3
	o Joint family	15	50.0	14	46.7
7	**Exercise carried out**				

	o Deep breathing exercises	02	06.7	01	03.3
	o Yoga exercise	-	-	02	06.7
	o Music therapy	03	10.0	01	03.3.
	o No exercise	25	83.3	26	86.7

Table - 1 presents frequency and percentage of experimental and control group according to demographic characteristics.

Age :

The age of the sample ranged from 10-15 years. Nearly half of the samples 40% in experimental group and 46.7% in control group were in the age group of 12-13years, 36.7 % in experimental group and 23.3% in control group were in the age group of 10-11years and only few samples 23.3% in experimental group and 30.0% in control group were in the age group 14- 15 years.

Sex:

Twenty Samples (66.7%) in experimental group and 19 (63.3%) in control group were females remaining 33.3% in experimental group and 36.7%in control group were males.

Educational status of the parents:

13 Samples (43.3%) in experimental group and 17 (56.6%) in control were graduate. Few of the samples 33.3% experimental group and 20.0% in control group were higher secondary. 20.0% samples in the experimental group had primary education where as in control group 16.7% had primary education. Only very few samples 3.3% in experimental group had illiterate and in control group 6.7% had illiterate.

Monthly income of the parents:

14 Samples (46.7%) in experimental and control group were earning Rs. 9001-12000.

10 (33.3%) samples in experimental group and 14 (46.7%) in control group were earning Rs. 5001-9000. Very few samples 6 (20.0%) in experimental and 6.7% in control were earning Rs. 4001-5000.

Education status of the children:

Seven Samples 23.3% in experimental group were from 10th standard and 23.3% were from 9th standard in control group. 30.0% were from 10th standard and 30.0% were from 9th standard. Few

samples 16.7% in experimental were from 8th standard and 16.7th were from 7th standard where as in control group 23.3% were from 7th standard and 16.7% were from 10th standard. Only 20.0% in experimental group were from 6th standard.

Type of family:

In experimental group half of the samples 50.0% belonged to nuclear family and 50.0% belonged to joint family where as in control group53.3% samples belonged to nuclear family and 46.7 % were from joint family.

Exercise:

Majority of the samples 83.3% in experimental group and 86.7 % in control group were not doing the exercises .Very few samples 10.0% in experimental and 3.3% in control group were doing the music therapy. Similarly only 6.7% in experimental and 3.3 % in control group were doing the deep breathing exercise.

SECTION - II

TABLE -2

Distribution of frequency and percentage on level of physical stress in experimental and control group.

N=60

Group	Intervention	Levels of physical stress					
		Low		Moderate		Severe	
		F	%	F	%	F	%
Experimental group N=30	Before	9	30	16	53.3	5	16.7
	After						
	15th day	17	56.7	13	43.3	-	-
	30th day	29	96.7	1	03.3	-	-
Control group N=30	Baseline	7	23.3	18	60.0	5	16.7
	Subsequent						
	15th day	6	20.0	16	53.3	8	26.7
	30th day	6	20.0	12	40.0	12	40.0

Table 2 presents the frequency and percentage of experimental and control group according to level of stress in physical dimension before and after the intervention

Most of the sample 16 (53.3) in experimental group and 18 (60%) in control group had moderate physical stress, 9 (30%) in experimental group and 7 (23.3%) in control group had low level of stress and remaining 5 (16.7%) in experimental group and control group had severe level of stress before intervention. After intervention on 15th day, more than half of the samples 17 (56.7%) in experimental group had low level of stress compared to control group with 6 samples (20.0%).Nearly half of the samples 13 (43.3%) samples in experimental group and 16 (53.3%) samples in control group had moderate level of stress and remaining 8 (26.7%) samples in control group had severe level of stress. After intervention on 30th day, most of the samples 29 (96.7%) in experimental group had low level of stress compared to control group with 6 samples (20.0%).Only one (3.3%) sample in experimental group and 12 (40.0%) in control group had moderate level of stress and remaining 12 (40.0%) in control group had severe level of stress .

TABLE- 3

Distribution of frequency and percentage on level of Emotional stress in experimental and control group.

N=60

Group	Intervention	Levels of emotional stress					
		Low		Moderate		Severe	
		F	%	F	%	F	%
Experimental group N=30	Before	7	23.3	16	53.4	7	23.3
	After						
	15th day	13	43.3	11	36.7	6	20.0
	30th day	27	90.0	2	06.7	1	03.3
Control group N=30	Baseline	9	30.0	15	50.0	6	20.0
	Subsequent						
	15th day	7	23.3	15	50.0	8	26.7
	30th day	3	10.0	17	56.7	10	33.3

Table 3 - presents the frequency and percentage of emotional dimension in experimental and control group according to level of stress in emotional dimension before and after the intervention.Most of the sample 16 (53.3) in experimental group and 15 (50.0%) in control group had moderate level of emotional stress, 7 (23.3%) in experimental group and 9 (30%) in control group had low level of stress, and remaining 7 (23.3%) in experimental group and 6 (20.0%) control group had severe level of stress before intervention. After intervention on 15th day, nearly half of the samples 13 (43.3%) in experimental group had low level of stress compared to control group with 7 (20.0%). samples.11 (36.7%) samples in experimental group and 15 (50.0%) samples in control group had moderate level of stress and remaining 7 (23.3%) in experimental group and 8 (26.7%) in control group had severe level of stress. After intervention on 30th day, most of the samples 27 (90.0%) in experimental group had low level of stress compared to control group with 3 samples (10.0%). 2 (3.3%) samples in experimental group and more than half of the sample 17 (56.7%) in control group had moderate level of stress and remaining only one (3.3%) sample in experimental group and 10 (33.3%) in control group had severe level of stress.

TABLE- 4

Distribution of frequency and percentage on level of Academic stress in experimental and control group.

N=60

Group	Intervention	**Levels of Academic stress**					
		Low		**Moderate**		**Severe**	
		F	**%**	**F**	**%**	**F**	**%**
Experimental group N=30	Before	6	20.0	17	56.7	7	23.3
	After						
	15th day	14	46.7	14	46.7	2	06.7
	30th day	28	93.3	2	6.7	-	-
Control group N=30	Baseline	12	40.0	14	46.7	4	13.3
	Subsequent						
	15th day	8	26.7	19	63.3	3	10.0
	30th day	4	13.7	20	66.6	6	20.0

Table 4 presents the frequency and percentage of academic dimension in experimental and control group according to level of stress in academic dimension before and after the intervention.17 Samples (56.7%) in experimental group and 14 (46.7%) in control group had moderate level of academic stress, 6 (20.0%) in experimental group and 12 (40.0%) in control group had low level of stress and remaining 7 (23.3%) in experimental group and 4 (13.3%) in control group had severe level of stress before intervention. After intervention on 15th day, 14 (46.7%)samples in experimental group had low level of stress compared to control group with 8 (26.7%) samples.14 (46.7%) samples in experimental group and 19 (63.3%) samples in control group had moderate level of stress and remaining 2 (6.7%) in experimental group and 3 (10.0%) in control group had severe level of stress. After intervention on 30th day, most of the samples 28 (93.3%) in experimental group had low level stress compared to control group with 4 samples (13.7%) Only 2 (3.3%) samples in experimental group and majority of the samples 20 (66.6%) in control group had moderate level of stress and remaining 6 (20.0%) samples in control group had severe level of stress.

TABLE- 5

Distribution of frequency and percentage on level of Social stress in Experimental and control group.

N=60

Group	Intervention	Levels of social stress					
		Low		Moderate		Severe	
		F	%	F	%	F	%
Experimental group N=30	Before	4	13.3	14	56.7	12	40.0
	After						
	15th day	11	36.7	17	56.7	2	06.7
	30th day	29	96.7	1	3.3	-	-
Control group N=30	Baseline	13	43.3	10	33.3	7	23.3
	Subsequent						
	15th day	8	26.7	12	40.0	10	33.3
	30th day	2	06.7	11	36.7	17	56.7

Table 5- presents the frequency and percentage of social dimension in experimental and control group according to level of stress in social dimension before and after the intervention .

Most of the samples 14 (46.7%) in experimental group and 10 (33.3%) in control group had moderate level of social stress, 4 (13.7%) in experimental group and 13 (43.3%) in control group had low level of stress, and remaining 12 (40.0%) in experimental group and 7 (23.3%) in control group had severe level of stress before intervention. After intervention on 15th day, 11 (36.7%) samples in experimental group had low level of stress compared to control group with 8 (26.7%) samples. More than half of the samples 17 (56.7%) in experimental group and 12 (40.0%) samples in control group had moderate level of stress and remaining 2 (6.7%) in experimental group and 10 (33.3%) in control group had severe level of stress.After intervention on 30th day, most of the samples 29 (96.7%) in experimental group had low level of stress compared to control group with 2 samples (6.7%).Only one (3.3%) sample in experimental group and 11 (36.7%) in control group had moderate level of stress and remaining 17 (56.7%) samples in control group had severe level of stress.

TABLE - 6

Distribution of frequency and percentage on level of Overall stress in experimental and control group.

N=60

Group	Intervention	Levels of overall stress					
		Low		Moderate		Severe	
		F	%	F	%	F	%
Experimental group	Before	1	03.3	26	86.7	3	10.0
	After						

N=30	15th day	12	04.0	18	60.0	-	-
	30th day	29	96.7	1	03.3	-	-
Control group N=30	Baseline	6	20.0	21	70.0	3	10.0
	Subsequent						
	15th day	2	06.7	26	86.7	2	06.7
	30th day	-	-	26	86.7	4	13.3

Table 6 - presents the frequency and percentage of experimental and control group according to level of overall stress before and after the intervention.

Most of the samples 26 (86.7%) in experimental group and 21 (70.0%) in control group had moderate level of overall stress, only one (3.3%) in experimental group and 6 (20.0%) in control group had low level of stress, and remaining 3 (10.0%) in experimental group and 3 (10.0%) in control group had severe level of stress before intervention.

After intervention on 15th day, 12 (40.0%) samples in experimental group had low level of stress compared to control group with 2 (6.7%) samples. Majority of the samples 18 (60.0%) samples in experimental group and 26 (86.7%) samples in control group had moderate level of stress and remaining 2 (6.7%) in control group had severe level of stress.

After intervention on 30th day, Majority of the samples 29 (96.7%) in experimental group had low level of stress. Only 1 (3.3%) sample in experimental group and 26 (86.7%) in control group had moderate level of stress and remaining 4 (13.3%) in control group had severe level of stress.

TABLE -7

Distribution of statistical values of stress in experimental and control group.

N=60

S.no	Observation	Max Score	Experimental Group N=(30)			Control Group N=(30)			MD	Unpaired 't' value P<0.05 df=58
			Mean score	Mean %	SD	Mean score	Mean %	SD		
1	Before intervention	68	35.63	52.39	8.198	30.37	44.66	8.459	5.267	1.863NS

2	After intervention on 15th day	68	26.13	38.42	6.124	33.30	48.97	7.535	7.167	4.043*
3	After intervention on 30th day	68	14.57	21.4	3.266	37.23	54.75	7.650	22.66	14.925

*** Significant**

Table 7–presents the mean score of overall stress in experimental and control group before and after the intervention. Before the intervention the mean score of overall stress was 35.63 in the experimental group and 30.37 in the control group. After the intervention on 15th day the mean score of overall stress was reduced to 26.13 in the experimental group and increased to 33.30 in the control group. After the intervention on 30th day the mean score of overall stress was further reduced to 14.57 in the experimental group, where as it was increased to 37.23 in the control group.

The statistical test shows that there was a significant difference in the mean score of overall stress in experimental and control group after the intervention on 15th day ($t=4.043$, $df=58$, $P<0.05$) and 30th day ($t=14.925$, $df=58$, $P<0.05$) and no significant difference before intervention.

The hypothesis (H2) "There is a significant difference between the mean score of overall stress in the experimental and control group after the intervention" is accepted.

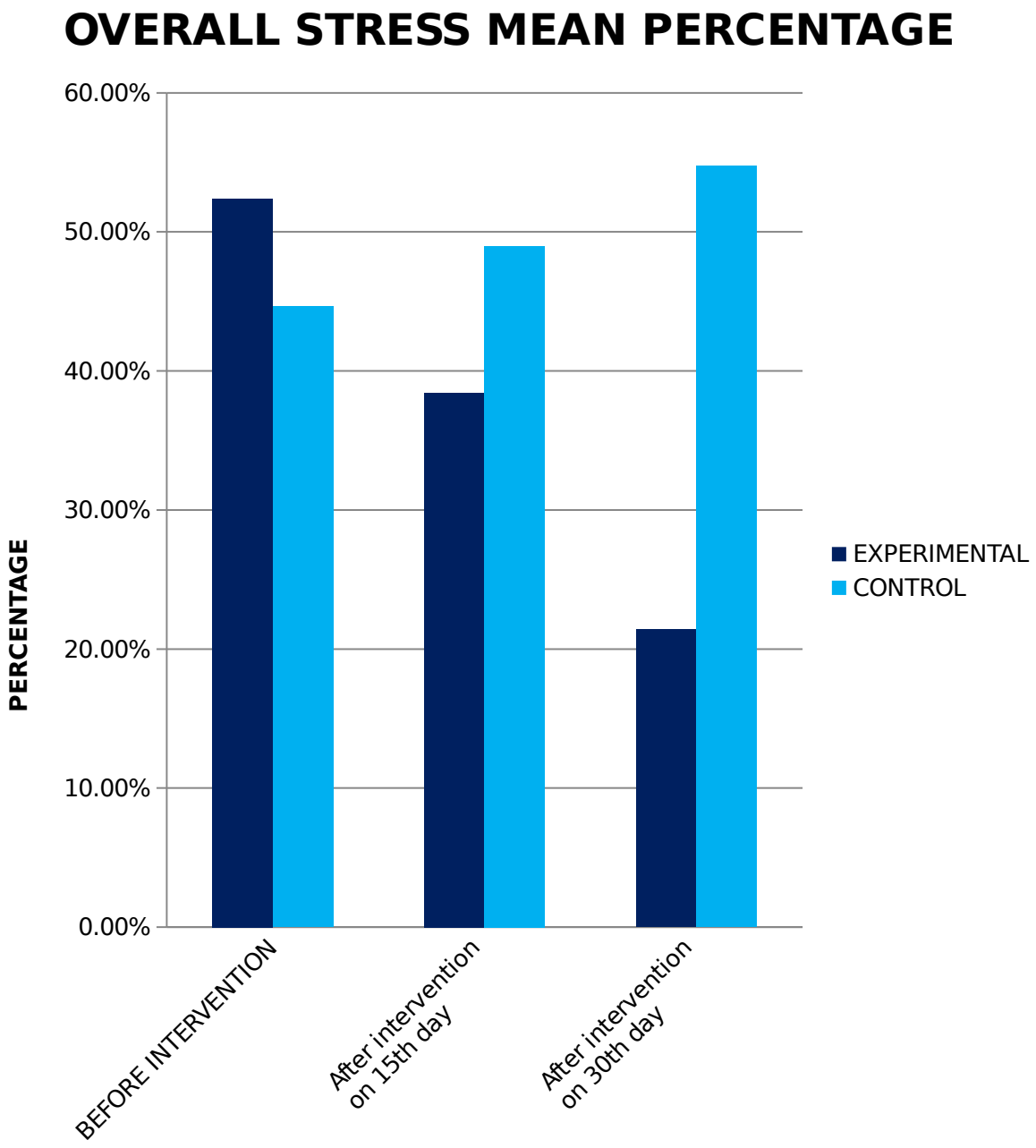


Figure 4: Comparison of mean value of overall stress in experimental and control group.

TABLE -8

Distribution of statistical value of stress dimension in experimental and control group before intervention.

N=60

S.no	Stress dimension	Max Score	Experimental Group N=(30)			Control Group N=(30)			MD	Unpaired 't' value P<0.05 df=58
			Mean score	Mean %	SD	Mean score	Mean %	SD		
1	**Physical**	18	8.77	48.72	3.559	8.90	49.44	3.782	0.133	0.141 NS
2	**Emotional**	16	8.97	56.06	3.429	7.87	49.18	2.945	1.100	1.333NS
3	**Academic**	22	11.43	51.95	5.022	9.00	40.90	4.127	2.433	1.986NS
4	**Social**	10	6.47	64.7	2.432	4.60	4.60	2.372	1.867	1.845 NS

***-Significant**

Table 8 –Presents the mean stress score and standard deviation of experimental and control group in the stress dimension before intervention and level of significance.

Before the intervention the mean stress score of physical dimension was 8.77 in the experimental group and 8.90 in the control group and in emotional dimension it was 8.97 in the experimental group and 7.87 in the control group, whereas in academic dimension mean stress score was11.43 in the experimental group and 9.0 in the control group and in social dimension 6.47 in the experimental group and 4.60 in the control group. Statistically there was no significant difference in the mean stress score in the four areas of stress dimension (physical, emotional. Academic, and social) in experimental and control group before intervention. So hypothesis (H2) is accepted.

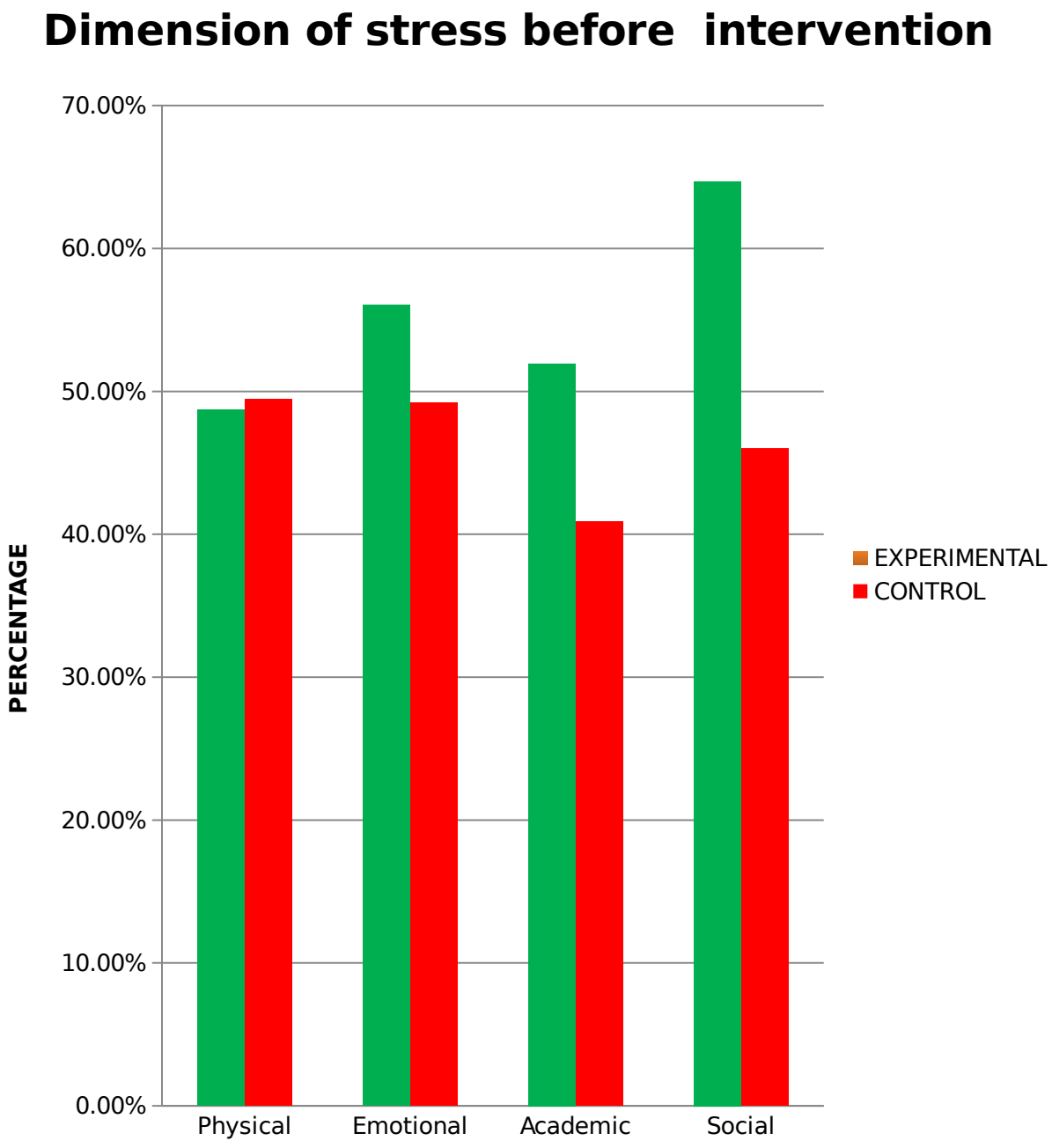


FIGURE -5: Percentages of mean score in dimension of stress in the experimental and control group before intervention.

TABLE - 9

Distribution of statistical value of stress dimension in experimental and control group on 15th day of intervention.

N=60

S.no	Stress Dimension	Max Score	Experimental Group N=(30)			Control Group N=(30)			MD	Unpaired 't' value P<0.05 df=58
			Mean score	Mean %	SD	Mean score	Mean %	SD		
1	Physical	18	6.73	37.38	2.392	9.93	55.16	3.342	3.200	4.256*
2	Emotional	16	7.10	49.37	3.294	8.17	51.06	2.718	1.0671	1.368*
3	Academic	22	8.07	36.68	3.591	9.83	44.68	3.659	1.767	3.888*
4	Social	10	4.23	42.3	1.906	5.37	53.7	2.470	1.133	7.989*

***-Significant**

Table 9 –Presents the mean stress score and standard deviation of experimental and control group in stress dimension after intervention and level of significance.

After the intervention on 15th day the mean score of physical dimension of stress was reduced to 6.73 in the experimental group and increased to 9.93 in the control group.

The statistical test shows that there is a significant difference in the mean score of physical dimension of stress in experimental and control group after the intervention on 15th day ($t=4.256$, $df=58$, $P<0.05$) .

The mean score of emotional dimension of stress was reduced to 7.10 in the experimental group and increased to 8.17 in the control group on 15th day of after intervention.

The statistical test shows that there is a significant difference in the mean stress score of emotional dimension in experimental and control group after the intervention 15th day ($t=1.368$, $df=58$, $P<0.05$)

After the intervention on 15th day the mean score of academic dimension of stress was reduced to 8.07 in the experimental group and increased to 9.83 in the control group.

The statistical test shows that there is a significant difference in the mean stress score of academic dimension in experimental and control group after the intervention on 15th day ($t=3.888$, $df=58$, $P<0.05$) .

In social dimension the mean score of stress was reduced to 4.23 in the experimental group and increased to 5.37 in the control group on 15th day of after intervention.

The statistical test shows that there is a significant difference in the mean score of social dimension of stress in experimental and control group after the intervention on15th day ($t=7.989$, $df=58$, $P<0.05$) .

The hypothesis (H2) “There is a significant difference in the mean stress score in the four areas of stress dimension (physical, emotional. Academic, and social) in experimental and control group after intervention on 15th day” is accepted.

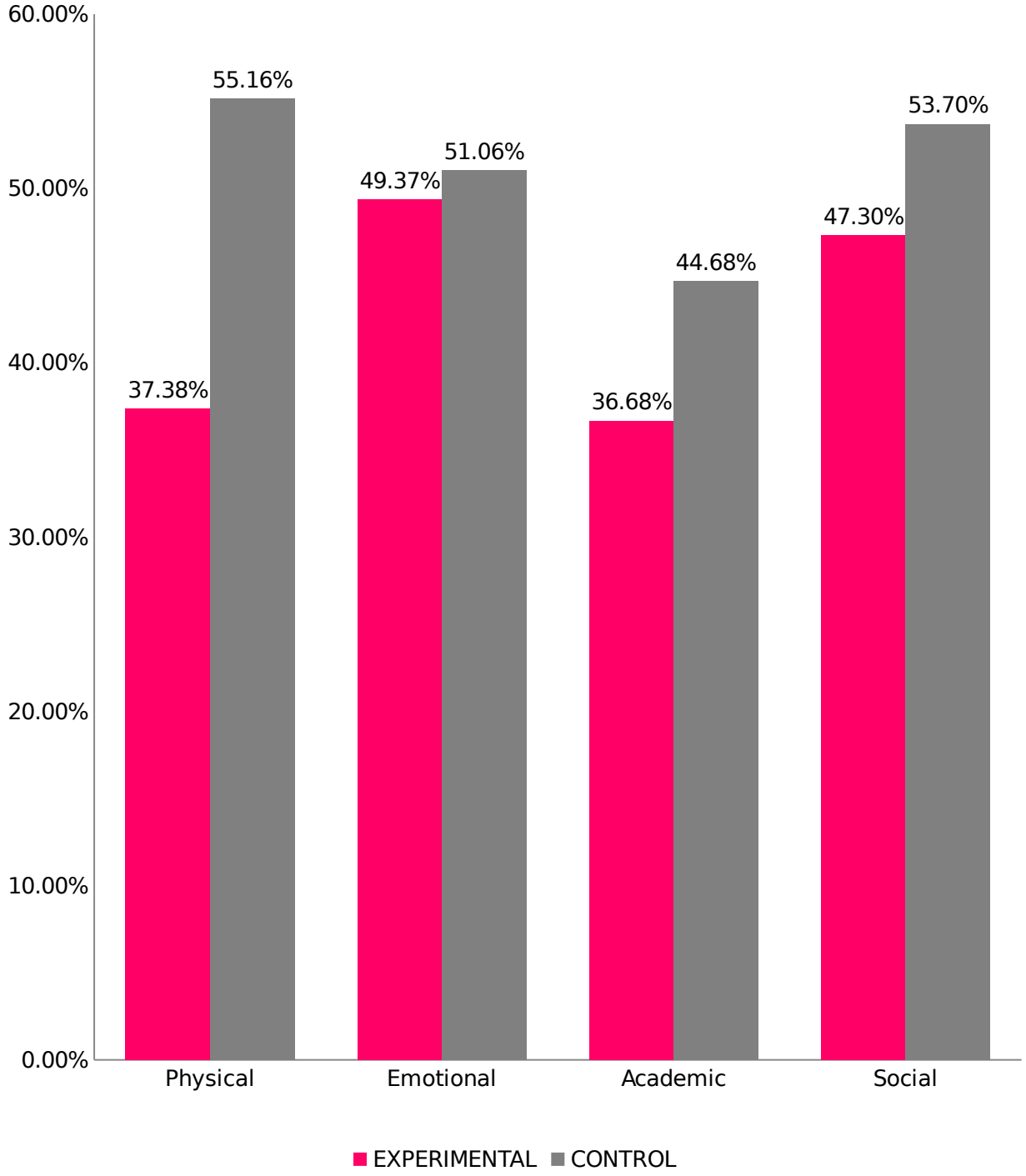


Figure 6: Percentage of mean score in dimension of stress in the experimental and control group after intervention on 15th day.

TABLE-10

Distribution of statistical value of stress dimension in experimental and control group on 30th day of intervention.

N=60

S.no	STRESS DIMENSION	Max Score	Experimental Group N=(30)			Control Group N=(30)			MD	Unpaired 't' value P<0.05 df=58
			Mean score	Mean %	SD	Mean score	Mean %	SD		
1	Physical	18	4.20	23.33	1.690	10.83	60.16	3.374	6.633	9.628*
2	Emotional	16	3.93	24.56	1.946	8.53	52.31	2.776	4.600	7.43*
3	Academic	22	4.477	20.31	1.889	11.03	50.13	3.439	6.567	9.167*
4	Social	10	1.97	19.7	.890	6.83	2.83	2.451	4.867	10.224*

***-Significant** **Table value-2.003**

NS-Not significant

Table 8 –Presents the mean stress score and standard deviation of experimental and control group in stress dimension after intervention and level of significance.

After the intervention on 30th day the mean score of physical dimension of stress was reduced to 4.20 in the experimental group and where as it is increased to 10.83 in the control group.

The statistical test shows that there is a significant difference in the mean score of physical dimension of stress in experimental and control group after the intervention on 30th day ($t=9.628$, $df=58$, $P<0.05$) .

After the intervention on 30th day the mean score of emotional dimension of stress was reduced to 3.93 in the experimental group and increased to 8.53 in the control group.

The statistical test shows that there is a significant difference in the mean stress score of emotional dimension in experimental and control group after the intervention on 30th day ($t=7.43$, $df=58$, $P<0.05$) .

After the intervention on 30th day the mean score of academic dimension of stress was reduced to 4.47in the experimental group and increased to11.03 in the control group.

The statistical test shows that there is a significant difference in the mean stress score of academic dimension in experimental and control group after the intervention on 30th day ($t=9.167$, $df=58$, $P<0.05$).

After the intervention on 30th day the mean score of social dimension of stress was reduced to 1.97 in the experimental group and increased to 6.83in the control group.

The statistical test shows that there is a significant difference in the mean score of social dimension of stress in experimental and control group after the intervention on 30th day ($t=10.224$, $df=58$, $P<0.05$)

The hypothesis (H2) “There is a significant difference in the mean stress score in the four areas of stress dimension (physical, emotional. Academic, and social) in experimental and control group after intervention on 30th day” is accepted.

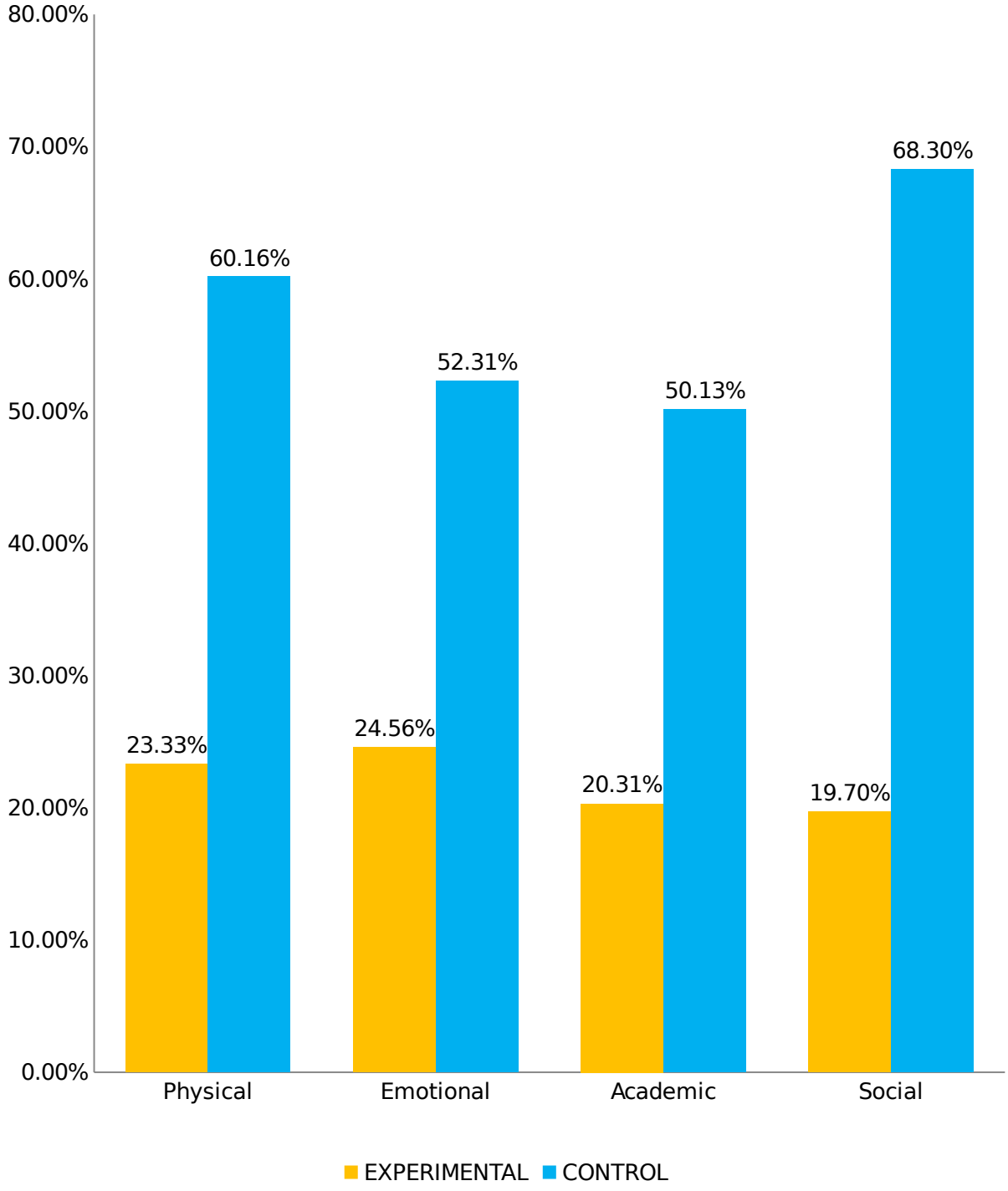


Figure 7: Percentage of mean score in dimension of stress in the experimental and control group after intervention on 30th day.

SECTION - III

TABLE-11

Association of selected demographic characteristics with physical stress.

S.no	Demographic Characteristics	Level of Physical Stress						X^2 Value P<0.05	X^2 table Value P<0.05
		Low		Moderate		Severe			
		F	%	F	%	F	%		
1	**Age (years)**								
	o 10-11 years	11	36.7	07	23.3	11	36.7	2.641	Df=4
	o 12-13 years	12	40.0	14	46.7	12	40.0	NS	9.48
	o 13-14 years	07	23.3	09	30.0	07	23.3		
2	**Sex**								
	o Male	5	8.3	12	20.0	4	6.7	1.385	Df=2
	o Female	11	18.3	22	36.7	6	10	NS	5.99
3	**Education of children**								
	o 6th	6	20.0	-	-	6	20.0	3.437	Df=8
	o 7th	5	16.7	7	23.3	5	16.7	NS	15.51
	o 8th	5	16.7	5	16.7	5	16.7		
	o 9th	7	23.3	9	30.0	7	23.3		
	o 10th	7	23.3	9	30.0	7	23.3		
4.	**Type of family**	12	20.0	16	26.3	3	05.0	7.354*	Df=2
	o Nuclear	4	06.7	1	25.0	1	16.7		5.99
	o Joint								

Table 11- presents the association of selected demographic characteristics with emotional dimension of stress before intervention. This table shows that there is no association between the age, and sex, education of the children and emotional stress in experimental and control group before the intervention. However there is an association between type of family and the level of emotional stress. Joint family has severe level of emotional stress than nuclear family.

TABLE-12

Association of selected demographic characteristics with Emotional stress.

S.no	Demographic Characteristics	Level of Emotional Stress						X^2 Value P<0.05	X^2 table Value P<0.05
		Low		Moderate		Severe			
		F	%	F	%	F	%		
1	**Age (years)**								
	o 10-11 years	5	8.3	9	15.0	4	06.7	2.412	Df=4
	o 12-13 years	8	13.3	11	18.3	7	11.7	NS	9.48
	o 13-14 years	3	05.0	11	18.3	2	03.3		
2	**Sex**								
	o Male	5	8.3	13	21.7	3	05.0	1.259	Df=2
	o Female	11	18.3	18	30.0	10	16.7	NS	5.99
3	**Education of children**								
	o 6th	1	1.7	4	06.7	1	1.7	5.346	Df=8
	o 7th	5	8.3	4	06.7	3	5.0	NS	15.51
	o 8th	3	5.0	5	08.3	2	3.3		
	o 9th	4	6.7	8	13.3	4	6.7		
	o 10th	3	5.0	10	16.7	3	5.0		
4.	**Type of family**								
	o Nuclear	12	20.0	16	26.3	3	05.0	7.354*	Df=2
	o Joint	4	06.7	1	25.0	1	16.7		5.99

Table 12 - presents the association of selected demographic characteristics with emotional dimension of stress. This table shows that there is no association between the age, and sex, education of the children and emotional stress in experimental and control group before the intervention. However there is an association between type of family and the level of emotional stress. Joint family has severe level of emotional stress than nuclear family.

TABLE-13

Association of selected demographic characteristics with Academic stress.

S.no	Demographic Characteristics	Level of Academic Stress						X^2 Value P<0.05	X^2 table Value P<0.05
		Low		Moderate		Severe			
		F	%	F	%	F	%		
1	**Age (years)**								
	o 10-11 years	4	6.7	11	18.3	3	5.0		
	o 12-13 years	9	15.0	15	25.0	2	3.3	1.761	Df=4
	o 13-14 years	5	08.3	5	08.3	6	10.0	NS	9.48
2	**Sex**								
	o Male	2	3.3	14	23.3	5	8.3	6.867*	Df=2
	o Female	16	26.7	17	28.3	6	10.0		5.99
3	**Education of children**								
	o 6th	1	01.7	2	03.3	3	5.0		
	o 7th	3	05.0	8	13.3	1	1.7	6.342	Df=8
	o 8th	3	05.0	6	10.0	1	1.7	NS	15.51
	o 9th	5	08.3	9	15.0	2	3.3		
	o 10th	6	10.0	6	10.0	4	6.7		
4.	**Type of family**	7	11.7	16	26.7	8	13.3	1.279	Df=2
	o Nuclear	11	18.3	15	25.0	3	05.0	NS	5.99
	o Joint								

Table 13 presents the association of selected demographic characteristics with academic dimension of stress. This table shows that there is no association between age, education of the children and type of family and academic stress in experimental and control group before intervention. However there is an association between sex and the level of stress in academic dimension. Females had high levels of stress like low and moderate stress than males.

TABLE-14

Association of selected demographic characteristics with social stress.

N = 60

S.no	Demographic Characteristics	Level of Social Stress						X^2 Value P<0.05	X^2 table Value P<0.05
		Low		Moderate		Severe			
		F	%	F	%	F	%		
1	**Age (years)**								
	o 10-11 years	5	08.3	10	16.7	3	5.0	1.576	Df=4
	o 12-13 years	9	15.0	6	10.0	11	18.3	NS	9.48
	o 14-15years	3	05.0	8	13.3	5	8.3		
2	**Sex**								
	o Male	6	10.0	8	13.3	7	11.7	6.834	Df=2
	o Female	11	18.3	16	26.7	12	20.0	NS	5.99
3	**Education of children**								
	o 6th	0	0	2	03.3	4	6.7	7.634	Df=8
	o 7th	5	8.3	6	10.0	1	1.7	NS	15.51
	o 8th	3	5.0	2	03.3	5	5.0		
	o 9th	4	6.7	7	11.7	5	5.0		
	o 10th	5	8.3	7	11.7	4	6.7		
4.	**Type of family**								
	o Nuclear	9	15.0	14	23.3	8	13.3	6.724*	Df=2
	o Joint	8	13.3	10	16.7	1	18.3	NS	5.99

Table 14 - presents the association of selected demographic characteristics with social dimension of stress. This table shows that there is no association between the age, sex, education of the children and social stress in experimental and control group before the intervention. However there is association between the type of family and the level of social stress. Joint family had high level of social stress than nuclear family.

TABLE-15

Association of selected demographic characteristics with overall stress.

S.no	Demographic Characteristics	Level of Overall Stress						X^2 Value P<0.05	X^2 Table Value P<0.05
		Low		Moderate		Severe			
		F	%	F	%	F	%		
1	**Age (years)**								
	o 10-11 years	1	1.7	16	26.7	1	1.7	3.462	Df=4
	o 12-13 years	2	3.3	21	35.0	3	5.0	NS	9.48
	o 14-15 years	4	6.7	10	16.7	2	3.3		
2	**Sex**								
	o Male	1	01.7	17	28.3	3	5.0	8.246*	Df=2
	o Female	6	10.0	30	50.0	3	5.0		5.99
3	**Education of children**								
	o 6th	0	0	6	10.0	0	0	5.734	Df=8
	o 7th	1	1.7	9	15.0	2	3.3	NS	15.51
	o 8th	0	0	9	15.0	1	1.7		
	o 9th	0	0	15	25.0	1	1.7		
	o 10th	6	10.0	8	13.3	2	3.3		
4.	**Type of family**								
	o Nuclear	2	3.3	25	80.6	4	12.9	4.597	Df=2
	o Joint	5	8.3	22	36.7	2	03.3	NS	5.99

Table 15- presents the association of selected demographic characteristics with overall dimension of stress. This table shows that there is no association between the age, education of the children and type of family and overall stress in experimental and control group. However there is an association between sex and the level of stress in overall stress. Both males and females had equal level of severe stress and females had high level of moderate stress.

Requisition Letter for Content Validity

From ,

M.Sc(N) II year,

PPG College of Nursing,

Coimbatore – 35.

To,

Through: Principal, PPG College of Nursing

Respected Sir/Madam,

Sub: Requisition Letter for expert opinion and suggestion for content validity of tool.

I am a student of M.Sc (N) II year, PPG College of Nursing affiliated to the Tamilnadu Dr.M.G.R. Medical University, Chennai. As a partial fulfillment of the M.Sc(N) programme. I am conducting

A STUDY TO ASSESS THE EFFECTIVENESS OF PROGRESSIVE MUSCLE RELAXATION EXERCISE ON THE LEVEL OF STRESS AMONG EARLY ADOLESCENT SCHOOL CHILDREN IN ALCHEMY PUBLLIC SCHOOL AT COIMBATORE.

Herewith I have enclosed the developed tool for content validity and for the expert opinion and possible solution. It would be very kind of you to return the same as early as possible.

Thanking you,

Yours faithfully,

PPG College of Nursing

Format for the Content Validity

Name of the expert :

Address :

Total content for the tool :

Kindly validate each tool and tick wherever applicable

S. No	No. of Tool/Section	Strongly Agree	Agree	O.K	Not Applicable	Need Modification	Remarks

Remarks

Signature of the Expert with Date

A STUDY TO ASSESS THE EFFECTIVENESS OF PROGRESSIVE MUSCLE RELAXATION EXERCISE ON THE LEVEL OF STRESS AMONG EARLY ADOLESCENT SCHOOL CHILDREN IN ALCHEMY PUBLIC SCHOOL AT COIMBATORE.

By

Reg.No. 301616104

A DISSERTATION SUBMITTED TO THE TAMILNADU Dr. M.G.R.MEDICAL UNIVERSITY, CHENNAI IN PARTIAL FULFILLMENT OF REQUIREMENT FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING

OCTOBER 2018

A STUDY TO ASSESS THE EFFECTIVENESS OF PROGRESSIVE MUSCLE RELAXATION EXERCISE ON THE LEVEL OF STRESS AMONG EARLY ADOLESCENT SCHOOL CHILDREN IN ALCHEMY PULIC SCHOOL AT COIMBATORE.

CERTIFIED THAT THIS IS THE BONAFIDE WORK OF

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SIGNATURE: ---------- **COLLEGE SEAL**

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Coimbatore -35

A DISSERTATION SUBMITTED TO THE TAMILNADU DR. M.G.R.MEDICAL UNIVERSITY, CHENNAI IN PARTIAL FULFILLMENT OF REQUIREMENT FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING

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APPROVED BY DISSERTATION COMMITTEE ON – OCTOBER - 2017

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OCTOBER 2018

A STUDY TO ASSESS THE EFFECTIVENESS OF PROGRESSIVE MUSCLE RELAXATION EXERCISE ON THE LEVEL OF STRESS AMONG EARLY ADOLESCENT SCHOOL CHILDREN IN ALCHEMY PULIC SCHOOL AT COIMBATORE.

By

Reg. No : 301616104

Approved by

EXTERNAL
INTERNAL

A DISSERTATION SUBMITTED TO THE TAMILNADU Dr. M.G.R. MEDICAL UNIVERSITY, CHENNAI IN PARTIAL FULFILLMENT OF REQUIREMENT FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING

OCTOBER 2018.

ABSTRACT

Statement of the problem: A study to assess the effectiveness of progressive muscle relaxation exercise on the level of stress among early adolescent school children in Alchemy public school at Coimbatore. **Objectives -1.**To assess the level of stress among early adolescent school children.**2.**To provide progressive muscle relaxation exercise to experimental group.**3.**To assess the effectiveness of progressive muscle relaxation exercise on level of stress among experimental and control group.**4.**To correlate the level of stress among early adolescent school children for experimental and control group.**5.**To associate the level of stress among early adolescent school children with selected demographic variables.The conceptual frame work used in this study was Callista Roy's Adaptation Theory (1996).**Metholdology**-A non equivalent quasi experimental pre and post intervention two groups design was used. The sample size consisted of 60 adolescent school children (30 in experimental group and 30 in control group), selected by simple random sampling technique – lottery method. The experimental group was taught about progressive muscle relaxation technique. They practiced the exercises every day for 30 minutes in the presence of investigator. Pre and post intervention assessment of level of stress was done by using stress assessment scale. The data was analyzed using descriptive and inferential statistics. **Results -** Most of the samples 26 (86.7%) in experimental group and 21 (70.0%) in control group had moderate level of stress, 1 (3.3%) in experimental group and 6 (20.0%) in control group had low level of stress and remaining 3 (10.0%) in experimental group and 3 (10.0%) control group had severe level of stress before intervention. After intervention on 15th day, nearly half of the samples 12 (40.0%) in experimental group had low level of stress compared to control group with 2 (6.7%) samples.18 (60.0%) samples in experimental group and 26 (86.7%) samples in control group had moderate level of stress and remaining 2 (6.7%) in control group had severe level of stress. After intervention on 30th day, majority of the samples 29 (96.7%) in experimental group had low level of stress and 26 (86.7%) in control group had moderate level of stress and remaining 4 (13.3%) in control group had severe level of stress.After the intervention on 30th day the mean overall stress score reduced to 14.57 from in the experimental group where as in the control group at increased to 37.23. There was a significant difference in the mean stress score of overall dimension in experimental and control group after the intervention on 15th day ($t=4.043$, $df=58$, $P<0.05$) and on 30th day ($t=14.925$, $df=58$, $P<0.05$).**conclusion** -This study concluded that deep breathing and progressive muscle relaxation technique had a significant effect on reducing stress among adolescent school children.

CHAPTER VI

Summary, conclusion, implication and recommendations

In this chapter, summary of the study, summary of the findings, conclusion, implication and recommendations are presented.

Summary of the study

The study was conducted to assess the effectiveness progressive muscle relaxation exercise on the level of stress among early adolescent school children in a selected school at Saravanampatti, Coimbatore.

The following objectives were set for the study

To assess the level of stress among early adolescent school children.

To provide progressive muscle relaxation exercise to experimental group.

To assess the effectiveness of progressive muscle relaxation exercise on level of stress among experimental and control group.

To correlate the level of stress among early adolescent school children for experimental and control group.

To associate the level of stress among early adolescent school children with selected demographic variables.

The alternative hypothesis set for the study as follows

Hypothesis

There is no significant difference in mean score of stress on various dimensions (physical, emotional, academic and social) between experimental group and control group before intervention.

There is a significant difference between the mean score of stress on various dimensions (physical, emotional, academic and social) of experimental group and control group after intervention.

Significant findings of the study were follows

There was a significant improvement in the physical, emotional, academic and social stress of experimental group compared to control group after the intervention (post test).

There was a significant difference in the mean score of overall stress in experimental and control group after the intervention on 15th day ($t=4.043$, $df=58$, $P<0.05$) and 30th day ($t=14.925$, $df=58$, $P<0.05$).

There was a significant association between the type of family and emotional stress.($x2=7.354^*$,$df=5.99$)

There was a significant association between the sex and academic stress. ($x2=6.867^*$,$df=5.99$)

There was a significant association between the type of family and social stress($x2=6.724^*$,$df=5.99$)

There was a significant association between the sex and overall stress ($x2=8.246^*$,$df=5.99$)

CONCLUSION

The findings of the study concluded that there was a significant improvement in reduction in level of stress in four dimensions (physical, emotional, academic, and social) in the experimental group after the intervention among adolescence. It could be finally concluded that reduction in level of stress in the experimental group could be attributed to the effect of progressive muscle relaxation technique. The control group without intervention did not show any difference in the level of stress after 15th day and 30th day.

LIMITATIONS

The investigator unable to control some variables such as previous experience, knowledge, and physical environment.

IMPLICATIONS

Nursing practice

Nurses play an important role in providing care to the school children. The finding of the study indicates the benefit of relaxation therapy to adolescent school children with stress. The teachers should be encouraged to teach the exercise to the adolescent school children. To emphasize the present study findings to the schools of the adolescent children. Progressive muscle relaxation techniques are cost effective. So it can be implemented in nursing practice in all the settings.

Nursing education

The finding of the study emphasizes the effect of relaxation therapy on stress. The importance of the various exercise and relaxation techniques during the adolescent children can be taught to the nursing students and graduate nurses' .this will help the people to cope with stress. This topic should be included in the curriculum.

Nursing administration

The nursing administrator can arrange in-service education regarding complimentary therapies to the nursing personnel. The nursing administrator can organize conferences, seminars, and workshops for nurses working in pediatric settings to encourage a positive attitude on relaxation therapy and to teach various techniques of relaxation therapy. The nurse administrator should take more responsibility to implement a protocol of relaxation technique for adolescent children admitted in the pediatric wards and protocol can be used in the school as a guide for the teachers.

Nursing research

The study is a preliminary set up for exploring the concept of relaxation therapy on stress on adolescent children. More research can be conducted to check the effectiveness of relaxation techniques on various other symptoms experienced by adolescent children such as anxiety and depression.

RECOMMENTATIONS FOR THE FUTURE RESEARCH

The study can be replicated on a larger sample for generalization of the

findings. ¬

The study can be conducted in different settings for different populations. ¬

☔ A study can be conducted to find out the effectiveness of self instructional learning through media.

1. CHAPTER - V

DISCUSSION

This study assessed the effect of progressive muscle relaxation technique on level of stress among early adolescent school children.

The findings of the study have been discussed with reference to the objectives of the study.

Objectives

To assess the level of stress among early adolescent school children.

To provide progressive muscle relaxation exercise to experimental group.

To assess the effectiveness of progressive muscle relaxation exercise on level of stress among experimental and control group.

To correlate the level of stress among early adolescent school children for experimental and control group.

To associate the level of stress among early adolescent school children with selected demographic variables.

Based on objectives

The level of physical stress in experimental and control group before and after the intervention:

16 samples (53.3%) in experimental group and 18 (60%) in control group had moderate physical stress, 9 (30%) in experimental group and (23.3%) samples in control group had low level of stress, and remaining 5 (16.7%) in experimental group and control group had severe level of stress before intervention. After intervention on 15th day, 17 samples (56.7%) in experimental group had low level of stress compared to control group with 6 samples (20.0%). samples 13 (43.3%) in experimental group and 16 (53.3%) samples in control group had moderate level of stress and remaining 8

(26.7%) samples in control group had severe level of stress. After intervention on 30th day, most of the samples 29 (96.7%) in experimental group had low level of stress compared to control group with 6 samples (20.0%).Only 1 (3.3%) sample in experimental group and 12 (40.0%) in control group had moderate level of stress and remaining 12 (40.0%) in control group had severe level of stress before intervention.

The level of stress in emotional dimension:

Most of the samples 16 (53.3) in experimental group and 15 (50.0%) in control group had moderate level stress, 7 (23.3%) in experimental group and 9 (30%) in control group had low level stress and remaining 7 (23.3%) in experimental group and 6 (20.0%) in control group had severe level of stress before intervention. After intervention on 15th day, 13 (43.3%) samples in experimental group had low level of stress compared to control group with 7 (20.0%). 11 (36.7%) samples in experimental group and 15 (50.0%) samples in control group had moderate level of stress and remaining 7 (23.3%) in experimental group and 8 (26.7%) in control group had severe level of stress.

After intervention on 30th day, most of the samples 27 (90.0%) in experimental group had low level of stress compared to control group with 3 samples (10.0%). 2 (3.3%) in experimental group and more than half of the samples 17 (56.7%) in control group had moderate level of stress and remaining only 1(3.3%) sample in experimental group and 10 (33.3%) in control group had severe level of stress.

M S Sherina, L Rampal (2006), conducted a cross sectional study among school students in putra, University, Malaysia. He stated that 41.9% students were found to have psychological stress like anxiety, which was significantly associated with depression.

The level of stress in academic dimension:

17 (56.7%) samples in experimental group and 14 (46.7%) in control group had moderate level of stress, 6 (20.0%) in experimental group and 12 (40.0%) in control group had low level of stress and remaining 7 (23.3%) in experimental group and 4 (13.3%) in control group had severe level of stress before intervention. After intervention on 15th day, 14 (46.7%) samples in experimental group had low level of stress compared to control group with 8 (26.7%) samples. 14 (46.7%) samples in experimental group and 19 (63.3%) samples in control group had moderate level of stress and remaining 2 (6.7%) in experimental group and 3 (10.0%) control group had severe level of stress. After intervention on 30th day, most of the samples 28 (93.3%) in experimental group had low level of stress compared to control group with 4 samples (13.7%). Only 2 (3.3%) samples in experimental group and 20 (66.6%) samples in control group had moderate level of stress and remaining 6 (20.0%) samples in control group had severe level of stress.

Rebecca P, Ann Vivien, S. Huan (2006) conducted a descriptive study regarding the relations between academic stress, depression, and suicidal ideation among 1,108 Asian adolescents 12–18 years old from a secondary school in Singapore. The results showed 56% adolescents'self-reported that the academic stress was significantly correlated with both adolescent depression and suicidal ideation.

2. **The level of stress in social dimension:**

14 (46.7%) samples in experimental group and 10 (33.3%) in control group had moderate level of stress, 4 (13.7%) in experimental group and 13 (43.3%) in control group had low level of stress and remaining 12 (40.0%) in experimental group and 7 (23.3%) in control group had severe level of stress before intervention.

After intervention on 15th day, 11 samples (36.7%) in experimental group had low level of stress compared to control group with 8 (26.7%) samples. 17 (56.7%) samples in experimental group and 12 (40.0%) samples in control group had moderate level of stress and remaining 2 (6.7%) in experimental group and 10 (33.3%) in control group had severe level of stress. After intervention on 30th day, most of the samples 29 (96.7%) in experimental group had low level of stress compared to control group with 2 samples (6.7%). Only 1 (3.3%) sample in experimental group and 11 (36.7%) samples in control group had moderate level of stress and remaining samples 17 (56.7%) in control group had severe level of stress.

T. KhajaRahamtulla (2006)Andhra University, conducted a study to examine the adjustment problems of school students from urban and rural schools of Visakhapatnam district. The variables included for the study apart from adjustment (family, social, academic, financial and emotional) are age, gender, class, type of school etc. The study results that parental education and occupation of the school children also significantly influenced adjustment. 25% family adjustment was more in higher classes, 40% social adjustment was better in higher secondary school children, 25% academic adjustment was better among children from schools that were founded by the government, and 30% emotional adjustment was higher for students from English and privately managed schools.

5. The level of stress in overall dimension:

Most of the samples 26 (86.7%) in experimental group and 21 (70.0%) in control group had moderate level of stress, one (3.3%) in experimental group and 6 (20.0%) in control group had low level of stress and remaining 3 (10.0%) in experimental group and 3 (10.0%) in control group had severe level of stress

before intervention. After intervention on 15th day, 12 (40.0%) samples in experimental group had low level of stress compared to control group with 2 (6.7%) samples. 18 (60.0%) samples in experimental group and 26 (86.7%) samples in control group had moderate level of stress and remaining 2 (6.7%) in control group had severe level of stress. After intervention on 30th day, majority of the samples 29 (96.7%) in experimental group had low level of stress. Only 1 (3.3%) sample in experimental group and 26 (86.7%) in control group had moderate level of stress and remaining 4 samples (13.3%) in control group had severe level of stress.

The present study revealed that the level of stress among school children was high in all the dimensions (physical, emotional, academic and social) before the intervention in both experimental and control group.

The level of overall dimension of stress was maximum reduced in the experimental group (mean score14.57) and increased in the control group (mean score 37.23) after the intervention on 30th day with a statistical significance of $t=14.925$, $df=58$, $P<0.05$. Consequent days of relaxation technique which reduce the high level of stress among adolescent on 30th day after intervention.

There is no significant difference in the mean stress score in the four areas of stress dimension (physical, emotional. Academic, and social) in experimental and control group before intervention.

I. Correlate the level of stress among early adolescent school children for experimental and control group.

There is a significant difference in the mean stress score in the four areas of stress dimension (physical, emotional. Academic, and social) in experimental and control

group after intervention on 15th day & 30th day. So the hypothesis (H2) there is a significant difference between the mean score of stress on various dimensions (physical, emotional, academic and social) of experimental group and control group after intervention is accepted.

II. Associate the level of stress among early adolescent school children with selected demographic variables.

- In physical and emotional dimension, type of family have association other demographic variables are not associated. In physical and emotional dimension, type of family have association other demographic variables are not associated
- In academic dimension , sex of the child have association other demographic variables are not associated .
- In social dimension sex of the child & type of the family are associated.

The review of literature in a research report is a summary of current knowledge about a particular practice (Nancy & Burns 2002).

A literature review is an appraising a report of information found in the literature related to stipulate area of study. The review should define, recap, evaluate and clarify the study. It has to give a conceptual foundation for the research and help the author to identify the essence of the research.

A literature review is a structured writer's presentation of what has been published on a topic by the scholars. The task of reviewing literature involving the identification, selection, critical analysis and reporting of existing information on the topic of interest.

The literature's found relevant and useful for the present study have been structured under the following headings.

A) Literature related to level of stress among adolescence children

B) Literature related to the benefit of relaxation therapy.

EdvinBru (2007), Stavanger University College, conducted a comparative descriptive study to examine the relationships between school-related stress, gender and psychosomatic manifestations in a sample of 531 adolescents' pupils in grades 8, 9 and 10 (aged 13-16 years) from two compulsory schools in Norway. Tests of the dimensional of the school-related stress that was assessed in the present study showed the following categories: (1) difficult with friends at school; (2) agonize about school achievement; (3) school pressure and (4) disputes with parents and/or teachers. Results showed that 18.1 percent reported being a lot' affected by at least one of the assessed psychosomatic manifestations. Girls delineate significantly more stress that was related to panic about school achievement and boys reported significantly more stress arising from conflicts with parents and/or teachers.

Saudi Arabia, Khalid S Al Gelban (2008), conducted a cross-sectional study among secondary school boy children at Abha, Aseer Region, Saudi Arabia. This aim of the study was to determine the generalized rates and severity of depression, anxiety and stress among Saudi adolescent boys .The systematic sampling method was used to select a class at each level in a school. The Arabic version of Depression,

Anxiety and Stress Scale (DASS) was used to establish levels of depression, anxiety and stress. Results indicated that of 1723 male students recruited to this study, 59.4% had at least one of the three disorders, 40.7% had at least two and 22.6% had all the three disorders. Moreover, more than one third of the participants (38.2%) had depression, while 48.9% had anxiety and 35.5% had stress. Depression, anxiety and stress were strongly, positively, and significantly correlated. The researcher concluded that there is an urgent need to pay more attention to the soundness of judgement of adolescent school boys.

KerryannWalsh(2008),Queensland University of Technology, conducted a comparative study to assess the anxiety across gender, school type, socio-economic background and mothers employment status. The broad objective of the study was to understand better anxiety among adolescents and also examined adolescents perceptions of quality time with their parents in Kolkata city, India .A group of 460 adolescents (220 boys and 240 girls), aged 13-17 years were selected to participate in the study .The multi-stage sampling technique was used. The data were collected using a self-report semi-structured questionnaire and a standardized psychological test, the State-Trait Anxiety Inventory. Results showed that anxiety was prevalent in the sample with 20.1% of boys and 17.9% of girls suffering from high anxiety. More boys were anxious than girls ($p<0.01$). Adolescents from Bengali medium schools were more anxious than adolescents from English medium schools ($p<0.01$). Adolescents belonging to the middle class (middle socio-economic group) suffered more anxiety than those from both high and low socio-economic groups ($p<0.01$). Adolescents with working mothers were found to be more anxious ($p<0.01$).Result also showed that a substantial proportion of the adolescents perceived they did not receive quality time from fathers (32.1%) and mothers (21.3%). A large number of them also did not feel comfortable to share their personal issues with their parents (60.0% for fathers and 40.0% for mothers).

Geeta S. Pasteyand Vijayalaxmi A. Aminbhavi (2006), Karnatak University, Dharwad, conducted a descriptive study to find out the impact of emotional maturity of adolescents on their stress and self confidence. Sample of the study consisted of 105 adolescents studying in XI and XII class at Dharwad city Karnataka State, India.

The scales such as emotional maturity, Self Confidence Inventory and Students' Stress Scale were administered used. Along with responses to the above scales, some personal data information was also collected from the sample. The obtained responses were scored and converted to standard (T) scores, further subjected to 't' and 'F' tests. The findings revealed that the adolescents with high emotional maturity had significantly high stress ($t=10.44$; $p< 0.001$) and self-assurance ($t=-2.92$;$p< 0.01$) when compared to those with low emotional maturity. Adolescents with more number of siblings had shown significantly higher level of confidence ($t = 2.96$; $p< 0.01$) than their counter parts. It is also found that studies level of father had significantly influenced stress of their early adolescent children ($F= 5.303$; $p< 0.01$). Adolescent boy childrens tend to have significantly higher stress than girls ($t=1.72$) and girls tend to have significantly high self confidence ($t=1.83$).

Shilpa Aggarwal (2007), Department of Psychiatry, conducted a study to adapt and test the validity of a scale measuring stress caused due to life events in an Indian adolescents and to assess the value of the instrument identifying causal relationships between stressful events and behavioral problems and to comparing the degrees of overlap in stress-causing events between adolescents and their parents during the same timeframe. In this study an adolescent life event stress scale (ALESS) containing 41 items was administered to 156 adolescents for formulation and 102 adolescents for validation. A third set of 112 adolescents was used to compare ALESS scores with child behavior checklist (CBCL) scores and parental stress scores due to life event .The results of compared and showed a strong positive correlation with CBCL scores with a model fit ($r2 = 0.32$) and a weak positive correlation with parents stress (Pearson's coefficient = 0.011) due to life incidents. The researcher concluded that a life event scale will be adapted to the early adolescents especially in Indian conditions.

Rohtash Singh and HardeepLalJoshi(2008), Kurukshetra University, conducted a study to examine relationship of depression, life stress and personality with suicidal ideation among college students in the age group of 15-19 years. Sample for the study consisted of 250 subjects (125 male & 125 female) drawn from different colleges of Haryana by using cluster sampling method. The objectives of the study were (a) to explore the association between suicidal ideation, depression, life stress and personality, and (b) to find out linear combination of different predictors of suicidal ideation. The participants were assessed with Scale for Suicide Ideation (SSI), Beck Depression Inventory (BDI), Eysenck Personality Questionnaire-R (EPQ-R) and Presumptive Stressful Life Events Scale (PSLES).

The data were analyzed by using Pearson Product Moment method of correlation and stepwise multiple regression analysis. Results demonstrated that suicidal ideation was positively associated with depression, stressful life events and two dimensions of personality.

Kwekkeboom KL,Wanta B (2008) conducted a comparative experimental study to assess the effects of progressive muscle relaxation and analgesic imagery interventions on cancer pain. The study was conducted on a sample of 40 patients selected from the selected private hospital in Bombay. For this study purposive sampling technique were used. A crossover design was used in this study. Based on this design, 40 hospitalized patients received two trials of analgesic imagery, two trials of progressive muscle relaxation technique and two trials of a control condition. Through comparative analysis the researcher reported that, both progressive muscle relaxation and analgesic imagery produced greater decline in pain intensity. Pain –related distress and perceived control over pain also decreased greatly with both these relaxation techniques than control condition.

Meery Lee, Read Lorson (2006) conducted an experimental study to assess the effectiveness of coping strategies for a reduction in psychological distress and physical symptom, as experienced by adolescents while enduring highly demanding examination stress. The study examined whether specific coping strategies for exam stress are related to psychological and physical adjustment and whether these strategies moderate the relationship between additional life event stress and adjustment. A sample of 358 Korean students in the 12th grade randomly selected from a selected school in Korean city. For this study one group design were used. The students reported their level of additional life event stress, the coping strategies they were using to cope with exam and non-exam stress, and their levels of depression and physical symptoms. Problem-solving and information-seeking coping were found to be related to reduction in depression. Emotional-discharge coping was related to decrease in physical symptoms. The researcher concluded that specific coping strategies are useful in reducing the psychological distress and physical symptoms among adolescents with exam and non- exam stress.

Driscoll (2007) conducted an experimental study to assess the effectiveness of deep breathing and progressive muscle relaxation technique to decrease the anxiety levels in elementary school children. The sample was made up of 104 third-grade

students at a Midwestern public elementary school, 58 males (55.8%) and 46 females. Ages ranged from 8 to 10 years with a median of 9 years. All participants were given the Westside Anxiety Scale (pre-test). Participants were randomly assigned to the treatment group and control group. For this study quasi experimental and control group design were used. While in training, participants in the experimental group were taught both deep breathing exercises (i.e., elevator breathing) and progressive muscle relaxation (i.e., guided relaxation for children).samples of the control group were given free time to read or complete assignments or went to recess. Elevator breathing was utilized in this study to help children relax quickly when facing stressful situations. Progressively relaxing each of the muscle groups along with deep breathing is intended to promote relaxation and counter the physiological components of arousal by first tensing the major muscle groups then relaxing those muscles. This portion of the experiment took approximately 8 to 10 minutes at each session. At the conclusion of the 5 weeks, participants in both the experimental and control groups completed the Westside Anxiety Scale (post-test).The results showed a significant decrease in mean anxiety scores due to the relaxation training in experimental group than in control group.

Cowen and David (2007), conducted an experimental study to assess the effectiveness of Progressive muscle relaxation, success imagery, and sedative (baroque) music with a self-designed stress reduction program for high school athletes in Maharat city. The samples of 40 school athletes were selected by using convenient sampling technique. These were presented once per week during ten hour-long sessions. Pre- and post-testing using self-report inventories showed the results in decreasing self-report of anxiety and depression and increase in self report of self-concept. A relaxation training session was held for ten consecutive

weeks for the experimental group. Although musical performance as measured by the Watkins-Farnum Music Performance Test did not differ significantly from control-group students, self-report inventories of anxiety and depression generally decreased while self-reported self-concept increased. The researcher concluded that these participants in both these groups frequently stated that the techniques used would be beneficial to all students.

Paul Yung, Peter French and Bartholomew Leung (2007),conducted a comparative study of relaxation training as complimentary therapy for mild hypertension control and the of implications of evidence –based medicine. The researcher examined the effects of three relaxation therapies for the reduction of high blood pressure in nine Chinese subjects in china. Subjects were randomly assigned to three groups: 1) progressive muscle relaxation, 2). Stretch release relaxation and 3).cognitive imagery relaxation. For this study quasi experimental and control group design were used. Systolic and diastolic pressure and heart rate were assessed in a baseline session, the 8th post treatment session and a 30 – days follow up session. Data were analyzed using ANOVA and paired sample t-test. Results revealed that in the context of the study all relaxation therapies can reduce blood pressure in Chinese subjects, but stretch release relaxation and progressive relaxation therapies appeared to be more effective in lowering blood pressure compared to cognitive imagery relaxation.

Jayasree Nayak, Department of family Resource Management (2008), the study on factors influencing stress and coping strategies was conducted on a random sample of 200 (100 each of male and female) degree college teachers of Dharwad city. Questionnaire for Demographic characteristic and Coping Strategies were used

along with Employment Organization Sources of Stressors scale. Frequency, percentage, t-test, correlation and step wise regression were used for analysis. The factors that caused stress always were mainly due to the interference of the employment organizational responsibilities with their family organizational role, lack of their involvement in decision making that reduced their responsibilities and the participatory model in their organizational set up which enhanced their responsibilities to the point of exhaustion. Majority of the teachers revealed that stress was basically due to their laziness and also they were happy with fewer responsibilities. The overall results of stress level revealed that, higher percentages of Teachers were in low stress category. Gender wise significant difference was observed.

CONCEPTUAL FRAME WORK

Conceptual frame work refers to interrelated concepts or abstractions that are assembled together in some rational scheme by virtue of their relevance to a common theme (Polit Hunger-1997).

Theoretical model for this study was derived from Callista Roy's Adaptation Theory (1996). Roy employs a feedback cycle of input, throughput, and output. Input is identified as stimuli, which can come from the environment or from within a person. Stimuli are classified as focal (immediately confronting the person) or residual (non specific such as cultural beliefs or attitude about illness).Input also includes a person's adaptation level (the range of stimuli to which a person can adapt easily. Through input we can make use of a person's processes and effectors. "Process" refers to the control mechanisms that a person uses as an adaptive

system. “Effectors” refers the physiological function, self concept, and role function involved in adaptation.

In the adaptive system, the term “system” is defined as self parts connected to function as a whole for some purpose and it so by virtue of the interdependence of its parts. This has two major internal control process called “regulator” and “cognator”.

Regulator sub system consists of internal process including chemical, neutral, and endocrine- transmit the stimuli, causing output- physiological response, cognator and sub system regulates self concepts, role function and inter dependence.

Output is the outcome of the system; when the system is a person, output is categorized as adaptive responses (Those that promote a person’s integrity) or ineffective responses (those that do not promote goal achievement) these responses provide feedback for the system.

The modified model in this study explains the input as the focal stimuli namely mild, moderate, severe level of stress. The contextual stimuli are age, sex, education of parents, monthly income of the parents, education of the children, type of family, practicing of any exercise. The coping mechanism of the cognator subsystem occurs as a result of relaxation therapy. The experimental group is subjected to relaxation therapy. The adaptive responses among the experimental group of adolescence school children shows improvement in the reduction of level of stress. The control group that has not undergone the relaxation therapy might not show an effective adaptation.

CHAPTER – I

INTRODUCTION

"Snow and adolescence are the only problems that Disappear if you ignore them long enough"

- Earl Wilson.

The word adolescence comes from a Latin word "adolescere" meaning ("to grow up") is a metamorphosis stage of physical and mental development generally occurring between pubertal stage and adulthood. But largely characterized as beginning and ending with the teenage stage. Enhancing children's lives and improving child wellbeing should be the central objective of children's policy. 'Wellbeing' describes the quality of childhood as they are lived. Wellbeing draws in the many different factors which affect children's lives including material conditions, housing and neighbor hoods, how children feel and do at school, their health, exposure to dangerous risks, and the quality of family and classmate relationship.

Schools should conduct a programme and plan to help them to develop all children's emotional, social skills and well being and to help parents develop their parenting skill. Schools and local authorities should make sure that the teachers and other staff are trained to identify when children at school, exhibit signs of anxiety or social and emotional problems.

Adolescent period is a time characterized by rapid change and development, as it is the change between child period and adulthood. Adolescent experience changes

will vary depending on gender, genetics, environmental factors and health. Physical change is a primary characteristic of adolescents. For girls, physical changes begin to happen at about age 12, while boys typically begin to see changes at the age 14. They will experience rapid, irregular physical growth, experience restlessness and fatigue due to hormonal changes.

The adolescent males begin with the growth of secondary sexual characteristics like growth of body hair, including underarm abdominal, chest, and pubic hair at the base of the penis, and an enlargement of the penis.Big mass of thigh muscles in the femur, growth of facial hair, bigger size of larynx and deepening of voice, increased stature, larger hands and feet than women, prepubescent boys and girls, square face, small waist broadening of shoulders and chest, shoulders wider than hips and this growth continues until sexual maturity is complete.

For the adolescent females the growth begins with the secondary sexual characteristics like enlargement of breasts and erection of nipples, growth of body hair, most prominently underarm and pubic hair, curly hair appears on the vulva, greater development of thigh muscles behind the femur, widening of hips, lower waist, smaller hands and feet, rounder face, changed distribution in weight and fat, more subcutaneous fat and fat deposits mainly around the buttocks, thighs and hips. The first menstruation (also known as menarche) indicates approaching sexual maturity. (Sujita Kumar Kar, Ananya Choudhury, -2015)

It is a period during which bones are still growing and there is a high risk of skeletal injuries. Rapid physical changes are accompanied by important psychological changes relating particularly to the way the adolescent perceives

himself or herself. Parents and others, especially sports coaches and teachers, who work with adolescents, must be very sensitive to both the bodily and the mentally changes occur during this period.Emotional changes are the characteristics of adolescence. Parents and teachers may begin to notice argumentative and aggressive behaviors due to sudden and intense emotions. Adolescents are also characteristically self-absorbed. They also believe that their thoughts and feelings are unique, experience mood swings often with peaks of intensity and unpredictability, increasingly concerned about peer acceptance, tend to be self-conscious, lacking in self-esteem, and highly sensitive to personal criticism. (Xiaoyun Zhang – 2013).

changeover in cognitive process are characteristic during adolescence. Adolescents experience higher thinking, reasoning and abstract thought and they develop more advanced language skills and verbalization. Adolescent interaction with peers during learning activities, often preoccupied with self, developing a capacity to understand higher levels of amusing, develop an increasingly better understanding of personal abilities. – (George Essel and Patrick Owusu -2017).

The homely environment and parents are still important for the behaviors and choices of adolescents. Adolescents who have a good relationship with their parents are less likely to engage in various risk behaviors, such as smoking, drinking, fighting, and/or unprotected sexual intercourse. In conflict with their parents, adolescents are more flexible than younger children, but more hostile and rigid compared to adults. Socialization is another characteristic of adolescence, as they begin to socialize more with their peers and separate themselves from their family. For adolescent self-esteem is highly dependent on their social lives. Girls will be small groups to close friends, while boys build larger social networks. Adolescents are highly aware of others.

early Adolescence are most likely to become despondency. when they experience stressful events, such as bullying or harassment at school or somewhere else, child abuse - both physical and sexual, lack of social skills, learning disabilities, long-term illness, poor parenting or care giving, loss of a parent to death or divorce. Stress tends to be addictive in nature and with children can result in inappropriate behaviors, academic difficulties, or health problems. (Wadsworth et al., 2004)

Stress and depression are serious problems for many teenagers; girls reported significantly more stress that was related to worries about school achievement, whereas boys reported significantly more stress arising from conflicts with parents and/or teachers. Finally, stress due to difficulties with same age group at school was more closely correlated with psychosomatic symptoms among boys than girls (Henry 2008).

According to Brooks (2007), the girls are getting more stress when compared to boys in preadolescent period. Adolescent girls are twice as likely as boys to experience depression, they are facing some kind of symptoms like, appetite changes, difficulty in concentration, difficulty making decisions, memory loss, fatigue, feeling upset, restless, and irritable, feeling worthless, hopeless, sad, or self-hatred, Loss of interest or pleasure in activities that were once fun, thinking or talking about suicide or death, trouble sleeping, too much sleeping, or daytime sleepiness, poor school performance, grades dropping, pulling away from family and friends, spending more time alone.

Stressful situations produce symptoms of excessive headaches, nausea and abdominal pain, tendency to worry a lot, low self-esteem, sleep disturbances,

excessive anger, moodiness, difficulty with concentration, having a delicate equilibrium / being easily upset.

Science Daily (Nov. 4, 2010) stress may be more injurious to our emotional health., A series of studies from the institution have found there may be a link between the recent rise in despondency rates and the increase of daily stress among adolescents. Some general measures that help to prevent stress in children and adolescents, that are positive problem solving and coping skills, supportive relationships at home and school with peers and adults, permission and ability to learn from mistake, developing competencies like academic, social, extracurricular, and life skills, consistent, positive discipline, ability to express feeling appropriately, feeling physically and emotionally safe, good nutrition, time to relax or do recreational activities, and relaxation exercises. Though there are various measures to reduce stress, it is proved that progressive muscle relaxation technique is very effective in reducing stress.

Jhon.M.gokul (2008) conducted an experimental study to assess the effectiveness of progressive muscle relaxation technique for a reduction in psychological stress as experienced by adolescents while examination. A sample of 480 Calcutta students in the 10th grade randomly selected from a selected school in Calcutta city. For this study pre test and post test design were used. The students reported their level of additional family related stress, the progressive muscle relaxation technique they were using to cope with exam and family stress, The researcher concluded that the progressive muscle relaxation technique are very useful in reducing the psychological stress among adolescents with exam and family related stress.

The Relaxation stretches the muscle,reduces the neural impulses sent to the brain, and thus decreases the activity of the brain as well as other body systems. The relaxation response can be get through a various of methods like deep breathing.

Relaxation helps people to develop thinking skills for reducing the negative ways in which they respond to stress within the environment. Progressive muscle relaxation methods teaches the pupil how to reduce tension in the body. By alternatively tightening and relaxing each muscle one can reduce the muscle tension which in turn relax the body and mind.

Stress is categorized by feelings of tension, frustration, worry, sadness and withdrawal, which commonly last for days. Most of the adolescents undergo stress, whatever the sources, it hampers the major functioning of the body. All persons has to cope with different kinds of pressure laid down by the society and family. Sibling's issues, status issues and financial issues, friends, increased misunderstandings with parents, issue with brother or sister, serious disease or injury of family member and problem with classmates. Most of the children are unable to handle by themselves and it throws them into stressful situation.

At home, stress can occur through a lack of care, over-scheduling, serious disease, less nutrition and change in the family situation, abuse, or unclear expectations.Stress will result in poor behaviors, difficulties in studies or health problems. father and mother can usually look back over recent events and see the causes of the behavior through the building of stressful situations.

All of us suffers with stress and reacts in different ways. through Stress our physic reacts to the demands made upon us by the circumstances, relationships, and our views and interpretations of these demands. Everyone will perceive both positive

and negative stress.positive stress is that optimal amount of stress that results in our feeling energized and motivated to do best work. Positive stress helps us to develop effective coping strategies to deal with our challenges,

Relaxation methods are a good way to help with stress. Relaxation is a process that decreases the effects of stress on your mind and body. Relaxation methods will help you to manage with everyday stress and with stress related to various health issues, such as diseases and pain. Practicing relaxation techniques can diminish stress symptoms by slowing your heart rate, Lowering blood pressure, Slowing your breathing rate, Increasing blood flow to major muscles, Reducing muscle tension and chronic pain, Improving concentration, Reducing anger and frustration and Boosting confidence to handle problems. By using relaxation techniques, it is possible to improve health, strengthen the immune system, build up resistance to stress, cope with change, and improve quality of life overall. Some of these techniques are best learned with the aid of a trained practitioner.

various number of simple techniques that students to reduce stress levels, to regain confidence and promote a sense of being in control; These include breathing awareness, progressive muscle relaxation and visualization. Breathing mode can be practiced almost all places and at all time, and ideally could be used several times a day. Following the relaxing of the body with a progressive muscle relaxation exercise, visualization then deepens the relaxation of the mind. For best results it can be worked in a daily practice.

Research study reviews, that it is quite evident that relaxation therapy is beneficial to reduce the stress among teenagers. There are different techniques in carrying out the relaxation therapy and some of the technique has already been tried out in post operative pain reduction, anxiety reduction in India and in other countries. These

exercises are simple, easy to perform and cost effective. So children can practice daily and within the minimal time.

Statement of the problem

A study to assess the effectiveness of progressive muscle relaxation exercise on the level of stress among early adolescent school children in Alchemy Public school at Coimbatore.

Objectives

1. To assess the level of stress among early adolescent school children.

2. To provide progressive muscle relaxation exercise to experimental group.

3. To assess the effectiveness of progressive muscle relaxation exercise on level of stress among experimental and control group.

4. To correlate the level of stress among early adolescent school children for experimental and control group.

5. To associate the level of stress among early adolescent school children with selected demographic variables.

Hypothesis

- There is no significant difference in mean score of stress on various dimensions (physical, emotional, academic and social) between experimental group and control group before intervention.

- There is a significant difference between the mean score of stress on various dimensions (physical, emotional, academic and social) of experimental group and control group after intervention.

Operational Definitions

1. **Assess**

It refers to judge or decide the amount of stress in adolescence before and after intervention.

2. **Effectiveness**

It refers to the extent to which Progressive muscle relaxation exercises are become successful in reducing stress.

3. **Progressive muscle relaxation exercise:**

It is a type of relaxation technique in which a person need to tighten and relax each muscle group from forehead, eyes, jaw, neck shoulder, shoulder blades, fist, forearm arms, elbows, chest, stomach, back, buttocks, calf muscle, legs, feet and toes.

4. **Stress:**

It is the difficulty, problem, uneasiness or tension, experienced by someone due to a situation or events. In this study, it refers to adolescence experiencing stress which is manifested in physical, emotional, academic and social responses. A person is able to express his difficulties and problem. In this study self reported stress is measured by modified stress assessment scale.

5. **Early Adolescence:**

Adolescence refers to the children who are in the age of 10to 14 years.

Assumptions:

- Stress is common for all adolescence.

- The level of stress will vary among adolescence.
- Adolescence stress is influenced by various factors such as physical, emotional, academic and social factors.
- Progressive muscle relaxation exercises are very simple and easy to perform.

CHAPTER III

METHODOLOGY

Research methodology is a well ordered way to solve a problem. It is a science of studying how research is to be carried out. basically, the mechanism by which researchers go about their work of delineate, explaining and augury phenomena is known as research methodology.

This chapter descries the methodology adopted by the researcher to assess the level of stress and deals with description of research design, research setting, sample, and sampling technique, development and description of the tool, pilot study, and data collection and statistical analysis.

Research approach

Research approach is an overall plan chosen to carry out the study. The selection of the research approach is the basic procedure for the conduct of research inquiry. An evaluative approach was used in this study. The study aimed at assessing the effectiveness of progressive muscle relaxation techniques on reduction of stress.

Research design

A quasi experimental pretest post test two group design was used to test the effectiveness of relaxation therapy on reduction of stress in school children.

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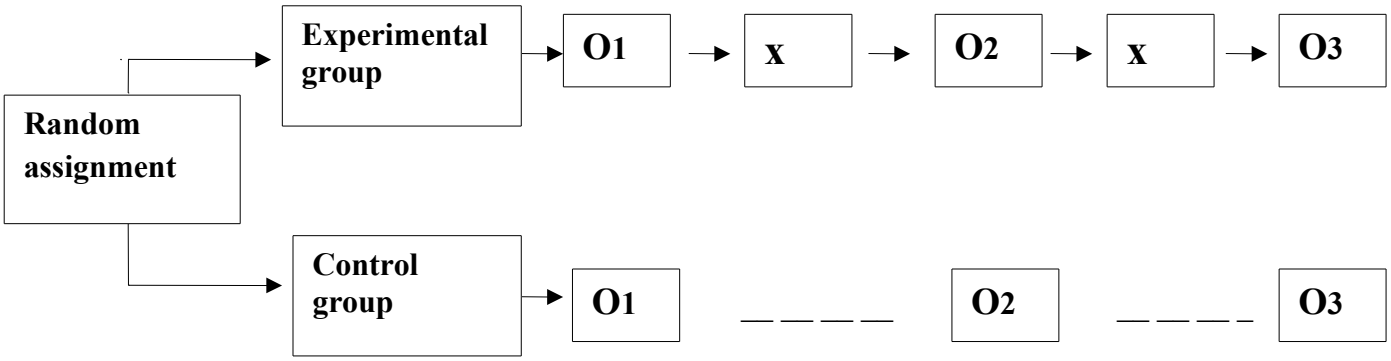

Figure 2- The schematic representation of the research design.

O1 - observation of level of stress before intervention in experimental and control group.

O2 and O3- observation of level of stress after intervention in experimental group and without intervention in control group,X – Progressive muscle relaxation exercises.

Setting of the study:

"Setting" refers to the area where the study is conducted. The study was conducted among children who are studying at Alchemy public school at saravanampatti, which is situated 2 kms away from the college.

Variables:

Independent variable was progressive muscle relaxation exercises.

Dependent variable was the level of stress among early adolescent school students.

Influencing variables are demographic variables.

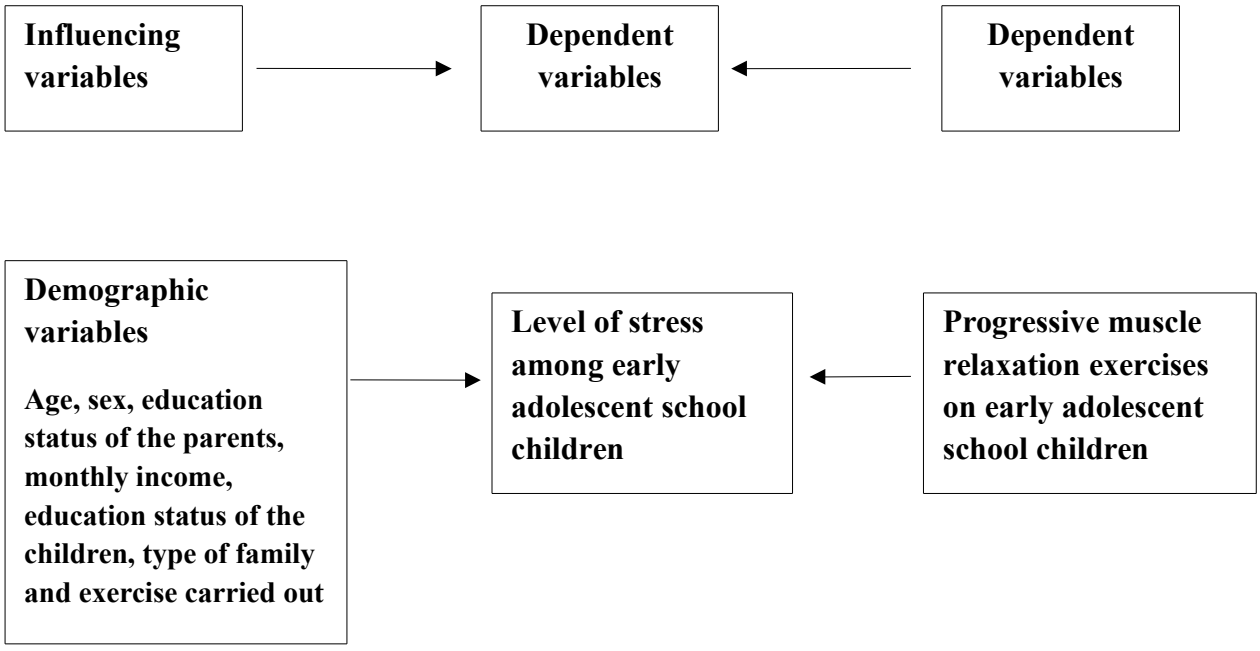

Figure. 3 The schematic representation of variables

Target population

The population of this study included the early adolescent school children aged 10-15 years, studying in 6th – 10th standards in Alchemy public school which is located in saravanampatti, Coimbatore.

Sample size

In this study the sample size was 60 school children in the age group of 10-14 years. 30 samples for control group and 30 samples for experimental group.

Sampling Technique:

By simple random sampling technique – lottery method was used to select the samples for the present study the school children who fulfilled the criteria were assigned to the experimental group 30 samples and 30 samples to the control group.

Inclusive criteria:

- **Adolescent children in the age of 10-15 yrs.**
- **Those who were willing to participate**
- **Those who knew Tamil and English language**
- **Those who were having stress.**

Exclusive criteria:

- **Children having physical disability.**
- **Children who were not willing to participate**
- **Children with the history of neuromuscular disorders**

SCORING AND INTERPRETATION OF SCORING

Scoring-stress assessment scale

For the questions a response in the' none of the time was given a score of 0 and in the 'some of the time' a score of 1 was given and in the most of the time a score of 2 was given. For the negative questions vice versa.

The tool consists of four dimensions such as physical, emotional, academic, and social.

s.no	Dimensions	Grading and Scoring		
		Low level of stress	Moderate level of stress	Severe level of stress
1	Physical	0-6	7-12	13-18
2	Emotional	0-5	6-10	11-16
3	Academic	0-7	8-14	15-22
4	Social	0-3	4-6	7-10
5	Overall	0-22	23-44	45-66

Testing of the tool

Validity

In order to establish the content validity, the tool was given to five experts in the field of pediatrics.According to the experts opinion the tool was refined after discussion with the guide.

Reliability

The reliability of the tool was established by test retest method. The tool was administered to 12 samples and collected the data. Samples were selected based on inclusive criteria. The reliability was checked by Karl Pearson's correlation coefficient method. The obtained 'r' value for physical dimension was +0.890,'r' value for emotional dimension was +0.926, 'r' value for academic dimension was +0.824 and 'r' value for social dimension was +0.898.The overall 'r' value was +0.92 which showed a highly positive co-relation and stability of the tool.

Pilot study

A pilot study was conducted, in order to test the practicability and feasibility of the tool. A formal permission was obtained from the principal of the school and class teachers.12 samples were selected, 6 in experimental group and 6 in control group. Both male and female students were included in this study. The pilot study was carried out over a period of 7 days. The result of the pilot study showed that, there was reduction of stress in experimental group than control group.

Data collection procedure

Before commencing the data collection permission was obtained from the principal and the class teachers from 6th – 10th standards located in saravanampatti, Coimbatore.By using simple random sampling technique through lottery method, 60 samples were selected, 30 in experimental group and 30 in control group. Both male and female students were included in this study. The purpose of the study was explained to the samples. One room was provided for the researcher to conduct the study.

The experimental group was divided into 5 subgroups, boys and girls separately. Each group consisted of 6 members. In both the experimental group and control group, 2 subgroups were boys and 3 subgroups were girls. Exercise demonstrated for the experimental groups in one day. On 1st day stress level was assessed by using stress assessment scale for both experimental and control group. According to teaching plan, relaxation therapy was taught and demonstrated separately for each sub groups in the experimental group. The students were asked to re demonstrate and carryout the exercise for 30 minutes a day for 15 days in the presence of investigator. For control group, no intervention was given. In both groups, on 15th day the investigator assessed the stress level by using stress assessment scale. Again the experimental groups were asked to re-demonstrate and carryout the exercises for 30 minutes for another 15 days. On 30th day also investigator was assessed the stress level by using stress assessment scale for experimental and control group. Total period of the data collection was one month.

Plan for data analysis

The data analysis was done by descriptive statistics and inferential statistics. The plan for data analysis is as follows

Descriptive statistics

The data was analyzed by using frequency and percentage distribution to describe demographic variables. It was used to assess the level of stress in various dimensions in experimental and control group before and after the intervention.

Mean and standard deviation were used to determine the difference in the level of stress.

Inferential statistics

‘t’ test was used to determine the significant difference in the level of stress in various dimensions. ‘Chi square, test was used to associate the demographic variables with level of stress in various dimensions.

LESSON PLAN

Topic: Progressive muscle relaxation technique.

Time Duration: 30mintes

Place: Private room.

Method of teaching: Discussion cum demonstration.

Central objectives: At the end of the teaching, students acquire knowledge about Progressive muscle relaxation technique and able to carry out the same in the following days.

Specific objectives: Students are able to

1. Explain the Progressive muscle relaxation technique.
2. List the advantages of Progressive muscle relaxation technique
3. Understands the guidelines to be followed before performing relaxation technique.
4. Perform Progressive muscle relaxation technique.

S.NO	TIME	SPECIFIC OBJECTIVES	CONTENT	A.V.Aids	METHOD
1	3mts	Introduce the topic	**INTRODUCTION** Good evening to all Stress is common for all persons. Today stress level among children has been going up dangerously due to the pressure on academic and other personal problems. The children need immediate attention to reduce their stress. Regular exercise will promote the health and prevent the stress and depression. Today we are going to learn about relaxation exercises that help you to relax your body and mind.		Lecture cum discussion
2	5mts	Explain Progressive muscle relaxation	Progressive muscle relaxation technique is a type of stretch relaxation technique in which a person need to tense and relax each muscle group one by one which relieve the tension in all the muscle group and relax the body and mind.		Demonstration
3	5mts	Tell the advantages of Progressive muscle relaxation technique .	**Advantages** ➢ It helps decrease generalized anxiety and panic attacks ➢ It improves ability to deal with the problem effectively		Lecturing

4	5 min	Understands the guidelines to be followed before performing relaxation technique	➢ It helps to improve the concentration power ➢ It increases sense of control over moods ➢ It improves sleep. **Guidelines to be followed before exercise** ➢ Practice 30 minutes per day ➢ Progressive muscle relaxation technique for 30 minutes ➢ Practice in empty stomach-avoid eating, drinking, or smoking. ➢ Practice it in a quiet location ➢ Practice it at regular time ➢ Tight clothing should be loosened ➢ Assume a comfortable position		Lecturing
5	15mts	Perform Progressive muscle relaxation technique.	**Progressive muscle relaxation technique** 1. Clench the fists tightly. Hold for 8-10 seconds and then relax. 2. Draw your forearms up toward your shoulders and making a muscle with both arms .Hold for some time and then relax. 3. Extend your arms out straight and locking your elbows. 4. Hold for some time and then relax. Tense the muscles in your forehead	Motion pictures	Demonstration

			by raising your eyebrows as far as you can. Hold and then relax. Imagine your forehead muscles becoming smooth and limp as they relax. 5. Tense the muscles around the eyes by clenching your eyelids tightly shut. Hold and then relax. Image sensation of deep relaxation spreading all around them. 6. Tighten your jaws by opening your mouth so widely that you 7. Stretch the muscles around the things of your jaw. 8. Tighten the muscles in the back of your neck by pulling your head way back; as if you were going to touch your head to your back. 9. Tighten your shoulders by raising them up as if you were going to touch the ears. Hold and then relax. 10. Tighten the muscles around your shoulder blades by pushing your shoulder blades back as if you were going to touch them together. 11. Tighten the muscles of your chest by taking in a deep breath. Hold for up to 10 seconds. And then release slowly.		

6 7	2mts 1min		12. Tighten your stomach muscles by sucking your stomach in. Hold and then release. 13. Try to touch both elbows together behind your back. 14. Press the small of your back into the chair or floor. 15. Tighten your buttocks by pulling them together. Hold and t then relax. Imagine muscles in your hips going loose and limp. 16. Extend your legs keeping your foot relaxed , press the back of your knee towards the floor. Tighten your calf muscles by pulling your toes toward you. Hold and then relax. 17. Tighten your feet by curling your toes downward. Hold for some time and then relax. **CONCLUSION** So far we have Progressive Muscle Relaxation technique, advantages and how to do these relaxation techniques. **FOLLOW UP** Carry out these relaxation techniques for 30 days, 30 minutes per day in a class room from 4 pm to 4.30 pm.		

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QUESTIONNAIRE

INTRODUCTION

Stress is common for all persons. Today stress level among children has been going up dangerously due to the pressure on academic and other personal problems. Stress can be tolerated for a particular period. But it exceeds the level, it creates many health problems. The children need immediate attention to reduce their stress.

PURPOSE

The purpose of this tool is to find out whether you experience any problem or difficulties at home, with your studies and friends. It will be beneficial for us to teach students how to handle problem or difficulties and remain calm.

INSTRUCTION

Kindly give your free responses and it will be kept confidential.

DEMOGRAPHIC DATA

1. Sample no
2. Age

   a. 10-11yrs ☐ b.12-13yrs ☐ c. 14-15yrs ☐
3. Sex

   a. Male ☐ b. Female ☐

4. Educational status of the children

   a. 6th standard ☐
   b. 7th standard ☐
   c. 8th standard ☐
   d. 9th standard ☐
   e. 10th standard ☐

5. Educational status of the parents

   a. Illiterate ☐
   b. Primary ☐
   c. High secondary ☐
   d. Graduate ☐

6. Monthly income of the parents

   a. Rs. 4001-5000 ☐
   b. Rs. 5001-9000 ☐
   c. Rs.9001-12,000 ☐

7. Type of family?

   a. Nuclear family ☐
   b. joint family ☐

8. What do you do when you are stressed or tensed?

a. Deep breathing exercise ☐

b. Yoga exercise ☐

c. Music therapy ☐

d. None of the above ☐

STRESS ASSESSMENT SCALE

Below given are some Questions to know the difficulties a person in stress may experience. Kindly give answer to the question if you experience any of the difficulties.

S.NO	STATEMENT	None of the time	Some of the time	Most of the time
	I. PHYSICAL DIMENSION			
1	Do you get sleep disturbance?			
2	Do you have breathing difficulty?			
3	Do you feel guilty for your development of secondary sex characteristics?			
4	Do you get muscle pain (back or neck)?			
5	Do you have loss of appetite?			
6	Do you have stomach ulcer?			
7	Do you have changes in the bowel and bladder habits?			
8	Do you have difficulty in carrying school bag?			
9	Do you have difficulty in mode of transportation to school &back home?			
	II. EMOTIONAL DIMENSION			
1	Do you get negative thoughts and feelings by self/others?			
2	Do you feel hopeless?			
3	Do you feel lonely?			
4	Do you feel that you are not capable to control your emotions?			
5	Are you attracted towards the opposite sex?			
6	Do you get communication problem with friends?			
7	Do you get communication problem with family members?			
8	Do you have any financial difficulty?			

S.NO	STATEMENT	None of the time	Some of the time	Most of the time
	III. SOCIAL DIMENSION			
1	Do you get into conflict with the friends very often?			
2	Do you have adjustment problem with your friends?			

3	Do you have adjustment problem with parents?			
4	Do you have heated arguments with parents?			
5	Do you have strained relationship with classmates?			
IV. ACADEMIC DIMENSION				
1	Are you bored with your studies?			
2	Are you struggling to meet the academic standards?			
3	Are you able to concentrate in the class?			
4	Do you feel that you cannot remember what you study?			
5	Do you compare your performance with others?			
6	Do you feel that you are overloaded with academic activities?			
7	Do you get into conflicts with teachers?			
8	Do you submit homework on time?			
9	Do you have fear of failure?			
10	Do you have parental pressure to score high mark?			
11	Do you feel that you are not getting adequate holiday?			

SCORING KEY

None of the time -0

Some of the time-1

Most of the time -2

The tool consists of four dimensions such as physical, emotional, academic, and social.

- In **physical dimension** the minimum score is 0 and maximum score is 18.

Score grading

SCORE	LEVEL OF STRESS
0 to 6	Low level of stress
7to12	Moderate level of stress
13 to18	Severe level of stress

- In **emotional dimension** the minimum score is 0 and maximum score is 16.

Score grading

SCORE	LEVEL OF STRESS
0 to5	Low level of stress
6 to10	Moderate level of stress
11 to16	Severe level of stress

- In **academic dimension** the minimum score is 0 and maximum score is 22.

Score grading

SCORE	LEVEL OF STRESS
0 to 7	Low level of stress
8 to 14	Moderate level of stress
15 to 22	Severe level of stress

- In **social dimension** the minimum score is 0 and maximum score is 10.

Scoring grading

SCORE	LEVEL OF STRESS
0 to 3	Low level of stress
4 to 6	Moderate level of stress
7 to 10	Severe level of stress

OVER ALL SCORE GRADING

SCORE	LEVEL OF STRESS
0 to 22	Low level of stress
23 to 44	Moderate level of stress
45 to 66	Severe level of stress